sionally introduced, for the purpose of ventilation. The panels of the retaining wall were drained by boring holes through the brick-work at given distances by a powerful auger worked by a machine, and then inserting cast-iron pipes of the same form as those of clay. This process proved so effectual, that the wall which before shewed evidence of water being lodged behind nearly the whole length, was now evidently drying fast, and the water oozed out from the pipes at all times, even during the severe draught of 1844.

The paper induced an animated discussion upon retaining walls, in which Mr. R. Stephenson gave an interesting account of his views at the time when he designed the walls of the Euston incline, the changes which subsequent experience had worked in his opinion, and the reasons which induced him to adopt the process of staying the walls with cast iron beams, stretching from one side to the other.

The next paper read was a description of the Ouse Bridge on the Hull and Selby Railway, by Mr. W. B. Bray, first. The Act for this railway was obtained in 1836, and it forms with the Leeds and Selby, which was opened two years previously, a direct communication between Leeds and Hull; they were both surveyed and executed from the designs of Messrs. Walker and Burges. The river Ouse at Selby is 176 feet wide and 14 feet deep at low-water; the tide rises 4 feet at neap-tides, and 9 feet at spring-tides. The bed of the river consists of silt resting on a bed of quicksand, beneath which is hard clay.

The foundations of the abutments were formed of piles driven into the clay, and on these longitudinal sleepers and transverse sills were tenoned, the intermediate spaces being filled with broken stone grouted with thin mortar. On this platform, brick abutments with stone quoins, string courses, and copings were built. They were subsequently tied by wrought-iron rods to heavy stone piers. There were six pieces placed in pairs, which were founded on piles driven into the clay, and tenoned to receive the cap sills, on which cast-iron frames were strongly bolted, the ends being furnished with cutwaters of cast-iron plates. The superstructure consisted of six ribs of cast-iron an inch and a half thick, resting on transverse girders, one being placed under each line of rails, and one under each handrail, the rails themselves being laid on longitudinal sleepers, 12 inches wide and 6 inches deep. In the Act there was a clause requiring that this bridge should have an opening arch for the passage of steamers and vessels with fixed masts; this consisted of two similar leaves each keyed on to a cast-iron shaft 9 inches square, with turned journals, plummer blocks, and trusses. The total weight of iron-work was 590 tons, and the erection of the bridge was let to Mr. Briggs, of Ferry-on-Trent, and the Butterley Iron Company. The communication was accompanied by a register of the tides at Selby during the year 1842, and was illustrated by a well-executed model, presented to the institution by Mr. James Walker.

Mr. J. B. Redman exhibited a portion of a fender pile which had been driven into the works of the new terrace pier at Gravesend, in 1843, and in which the "teredo navalis," a pipe-worm, had made great inroads. It appeared, however, that the ravages of this insect were confined to a space of about 3 feet above the level of low-water spring-tide, and that therefore if wood-work was well defended by copper sheathing or scupper nails at and below that point, no great injury would be received by piles in any situation.

The meeting was adjourned to Tuesday evening, the 18th instant, when the following paper was read:—

"Description of the Great Britain steamship, with an account of the trial voyages," by T. R. Guppy, Associate.

The Fine Arts.—The number of foreign artists now studying in Rome amounts to 405; 300 of whom are painters, 58 sculptors, 39 architects, and 7 engravers; 158 of those artists are Germans, 25 French, 33 English, 17 Russians, 7 Poles, 13 Swedes and Norwegians, 31 Danes, 19 Belgians, 3 Dutch, 11 Hungarians, 10 Spaniards, 7 Portuguese, and 14 Americans. The Italian artists are 542 in number, besides 2,000 mosaic-work makers.

DECORATIVE ART SOCIETY.

On Wednesday, the 12th inst., an introductory paper was read by Mr. Vicary, "On the physiology of timber trees, considered with reference to manufacturing purposes."

He commenced with a notice of the few Government and private collections of specimens of timber in this country, and expressed regret that a scientific arrangement had been seldom attempted, whereby a study of the varieties of timber could be promoted. He contrasted in a forcible manner the attention devoted in our national museums to stuffed birds, &c., with the almost total neglect of a useful classification of timber, although entering, as it does, so largely into our every-day comforts and conveniences.

The growth of trees, and the capillary action of the sap, &c., the formation of knots, and the consequent weakness wherever they occur, were next noticed, as also the effects of pruning and lopping at a wrong season, thereby generating what is usually termed "dry rot."

The patent processes of Mr. Payne were introduced, exhibiting in a series of experiments his modes of preserving timber from decay, and rendering it incombustible, also of hardening any English woods, and dyeing them of various colours, so as to make them available for the purposes of the cabinet-maker.

On Wednesday, the 26th instant, a paper will be read "On the interior decorations of the Collegiate Chapel of St. Stephen, at Westminster, as finished by Edward III., A.D. 1348."

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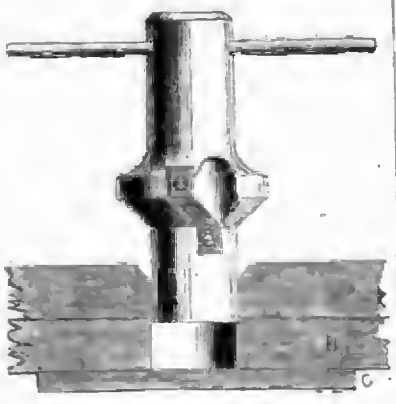
TOOL FOR CHAMFERING TRACERY.

Sir,—I beg to hand you a sketch of a tool used in chamfering tracery, after being pierced by the one shewn in page 621, Vol. II. A, represents the tracery as cut; B, a piece of plank



fastened to the tracery by hand-screws, to keep the tool steady; C, a slip of wood screwed to the plank to prevent the tool cutting too deep. The arris, or principal part of the part chamfered, should be cut away, which would much accelerate the work. The block should be made of dry, hard wood, as much depends on its being kept steady to its work. Your insertion of this would oblige,

Yours respectfully,

Newport, Jan. 7, 1845. Jas. Pickard.

How to Put Out a Chimney on Fire.—A correspondent of the *Carlisle Journal* states that while visiting a few days ago in Berwickshire, "I saw applied by a lady the following mode of putting out a chimney on fire, which I think should be generally known, for its simplicity, efficacy, and expedition. The chimney of the parlour, where an additional supply of wood was put upon the fire, at once caught fire. The lady immediately brought a plate full of common salt—shut the door of the apartment to prevent a current of air, and sprinkled a few handfulls of salt upon the fire. In about a minute and a half the fire in the chimney, which roared like distant thunder, was quenched. This neither caused smoke, nor precipitated soot, nor put out the fire, nor disturbed the operations of the breakfast, which were going on. The *rationale* of this I believe to be, that, in the process of burning the salt, muriatic acid gas is evolved, which extinguishes fire."

CHURCH NEWS.

A new church has just been completed at *Yeovil*, in Somerset, under the direction of Mr. Benjamin Ferrey. The style of the building is early English; it is cruciform in plan, and capable of accommodating 800 persons. The expense of the building has been about 3,000*l.*

—— The new district church at *Montpelier*, Bristol, was consecrated a few days since. The edifice is cruciform, in the style of architecture that prevailed at the end of the 13th century; it is rather plain, built of native stone, with freestone quoins, dressings, &c. A tower is placed at the centre of the west front; it was originally intended to have carried a lofty spire, which, with the tower, would have been 140 feet in height, but this important feature has been postponed, and thus the pleasing appearance of the exterior is greatly diminished. The pulpit is of stone, panelled on either side, and supported by a corbel of deeply-sunk mouldings. The lectern is of oak. The chancel is ascended by five steps. The altar-piece is composed of arcaded panelling, with detached shafts, cornice over, set with the ball flower, and the spandrels filled with foliage. The roof is devoid of plaster, and the characteristic Gothic feature carried out by rendering the construction ornamental. In the nave the roof is not so light as in the chancel, in consequence of the Incorporated Society having prescribed the use of the tie-beam. The whole of the wood-work is stained and varnished, and has the appearance of oak. The font, placed near the western and principal entrance, is of stone, the sides ornamented with elegant foliage, &c.; round the pedestal are four detached shafts; the whole stands on an octagonal base. The architect is Mr. John Hicks.——*Chester* Cathedral is about to undergo a thorough restoration, for which purpose a liberal subscription has been entered into. The cost of the works already contracted for is 2,504*l.*, but the sum required will be 5,000*l.* Amongst the contributors are his Royal Highness the Prince of Wales, 105*l.*; the Dean and Chapter, 100*l.*; the Dean of Chester, 100*l.*; the Marquis of Westminster, 105*l.*; Earl of Stamford, 105*l.*; Bishop of Chester, 100*l.*——It is in contemplation to open the new church at *Wilton*, Wilts, at Easter. The raised chancel is to be paved with porcelain tiles of a gorgeous pattern, except one small portion, which will be covered with small squares in agate, lava, and precious stones collected abroad by the Countess of Pembroke. No pews or galleries will be admitted, open sittings in carved oak being already placed on the floor of the building. A spacious area is preserved around the exterior, terminating in a stone palisado-work on the side next the public highway.——A new church of large dimension is to be erected at *Ashby Wolds*, Leicestershire, towards the funds for which her Majesty the Queen Dowager has liberally subscribed. The Marchioness of Hastings has given a site; and amongst the other contributors are the Earl Howe, the Bishops of Peterborough and Lichfield, the vicar of Ashby-de-la-Zouch, Colonel Buckley, Mrs. Lane Fox, &c.——The Honourable and Rev. G. M. Yorke, formerly of Queens' college, rector of St. Philip's Birmingham, has commenced soliciting subscriptions from the parishioners for the necessary repairs of that sacred edifice. We understand that donations amounting to 1,000*l.* have been received, and that about 600*l.* more will be required.——An appeal for contributions in aid of building a church in the new district of *Pembroke Dock*, has been extensively circulated. There is now a population of 4,000 inhabitants (still rapidly increasing) without a church nearer than Pembroke, a distance of two miles and half. The incumbent of Pembroke has promised, conditionally—that is, if the church shall be built and consecrated during his incumbency, a donation of 200*l.* A subscription having been opened, the sum of 300*l.* has been placed in the hands of the treasurer, exclusive of the above donation, which is available only under the aforesaid conditions.

An Artesian well is being sunk in Berkeley-square, in lieu of the old pump which has for so many years past supplied the square and its vicinity.